

ICF DRAFT RESPONSES TO EPA COMMENTS ON BDCP EIR/EIS - NONE OF THESE RESPONSES HAVE BEEN REVIEWED, ENDORSED OR APPROVED BY EPA

ICF Comment #	Date Received	Chapter/ Appendix	Page(s)	Line(s)	Comment	Response
584	7/3/13	2		General	A more detailed discussion of delta ecosystem health and productivity, water reliability, and the role of water demand would substantially improve support for the Need Section of the Purpose and Need Chapter. This information includes aquatic life population trends and anticipated water demand. Some of this information is documented (e.g. in Ch 5) and readily available and should not be a cumbersome task to include in the Need section.	Please see Appendix 1C (demand management measures) and Appendix 3A (alternatives development) which describe some of the background relating to these issues. Additionally, Appendix 3G describes the development of habitat-related conservation measures based on conditions in the Delta.
982	7/3/13	3	3-3		Section 3.1.1 – is the Preferred Alternative also preferred under NEPA or just CEQA?	At this point, it is only under CEQA. This issue was discussed at a live edit meeting with the lead agencies and text was added to clarify that a Preferred Alternative has not yet been identified for NEPA.
983	7/3/13	3	3-3	16–1 9	This sentence refers to Alternative 4 of the BDCP. Is it really CM1 Alternative 4 that is being discussed in the sentence or BDCP Alternative 4?	CM1 of Alternative 4 has been modified substantially from previous iterations. These text revisions are based on lead agency direction. No change has been made.
984	7/3/13	3	3-3	16–1 9	<p>We recommend adding text to this section that explains the apparent difference in opinion about scientific knowledge regarding the relationship between Delta outflows and restoring ecosystem processes and fish populations and Delta outflows resulting from the preferred alternative operational scenario.</p> <p>The preferred Alternative 4 results in minor changes, -1% to 5% [1], to Delta outflow relative to existing conditions. This suggests that BDCP applicants consider these changes sufficient to meet the ESA Section 10 requirement of “contributing to recovery of endangered and threatened species.”</p> <p>There is broad scientific agreement that existing Delta outflow conditions are insufficient for protecting the aquatic ecosystem and multiple fish species, and that both increased freshwater flows and aquatic habitat restoration are needed to restore ecosystem processes in the Bay Delta and protect T &amp; E fish populations. [2] This includes statements from lead federal agencies.</p> <p>If there is sound scientific information that supports the perspective that increased Delta outflows are not needed and habitat restoration alone would be able to restore ecosystem processes and protect fish species, it should be presented in this DEIS.</p> <p>[1] Tables 5-7 and 5-8, Chapter 5 Water Supply Administrative Draft EIS for BDCP.  [2] (a) Public Policy Institute of California (2013) Scientist and Stakeholder Views on the Delta Ecosystem “a strong majority of scientists prioritizes habitat and flow management actions that would restore more natural processes within and upstream of the delta” (p. 2).  <a href="http://www.ppic.org/content/pubs/report/R_413EHR.pdf">http://www.ppic.org/content/pubs/report/R_413EHR.pdf</a>  (b) State Water Resources Control Board (2010) Development of Flow Criteria for the Sacramento-San Joaquin Delta Ecosystem Flows Report, p.7. “both flow improvements and habitat restoration are essential to protecting public trust resources [defined as “native and valued resident and migratory species habitats and ecosystem processes” p. 10].</p>	Additional information regarding this issue has been added to the discussion of the decision trees, under the description of operational scenario H (which corresponds to Alternative 4). See section 3.6.4.2 under Scenario H.

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985	7/3/13	3	3-3	16-19	The phrase "...DWR considers to be an optimal balance between ecological and water supply objectives" in reference to Alternative 4 implies that DWR is optimizing a balance between the aquatic ecosystem and water supply and throughout the entire water delivery system. We recommend modifying this sentence to more precisely communicate that a portion of the water supply system is being modified to improve reliability and that Alternative 4 is intended to optimize ecological and water supply objectives under a portion of the CVP-SWP delivery system. This would better communicate that adjusting deliveries north of the Delta is not included as a potential method of optimizing ecological and water supply objectives.	"in the Plan Area" has been added to the end of this sentence, to geographically limit this phrase, per the commenter's request.
986	7/3/13	3	3-11	17-19	The reasons for eliminating these alternatives should be more clearly identified. The document refers to the screening analysis appendix but these decisions should be highlighted in the DEIS.	A summary discussion of reasoning behind eliminating these alternatives has been included in the introductory sentence, which states that alternatives were eliminated because they included similar or duplicative features, because they would fail to meet the purpose and need for the BDCP, or because they would likely violate federal and state statutes and regulations. No additional text has been added.
987	7/3/13	3	3-17	Table 3-2	Are the activities to reduce the effects of methylmercury contamination also focused on minimizing transport of methylmercury? The text here only refers to formation.	These activities also cover reduction of mobilization of methylmercury. This has been added to the description in the table.
988	7/3/13	3	3-20	7	Will near term CMs include acquisition of terrestrial and wetland habitat only or will they include restoration actions too? If so, we recommend including restoration actions in this sentence. It appears that the action is only to acquire the land but not to actively restore it for benefits to fish and wildlife in the near term.	Yes, this includes restoration, The first part of this sentence reads "The NT measures include early habitat creation or restoration actions..." No changes have been made.
989	7/3/13	3	3-30	6-9	What are the reasons for assuming that regulating the ratio of exports to imports would not apply to the north of delta intakes?	The rationale was based on the fact that the I ratio, as written, did not contemplate new intakes in the North Delta. For clarity, this has been updated to refer to the "south Delta I ratio." and footnotes have been added in several instances to clarify these assumptions.
990	7/3/13	3	3-31	28-29	Why is 55% unimpaired flow from <b>February</b> to June evaluated instead of a range of unimpaired flows from <b>January</b> to June as it is suggested in the State Water Board 2010 Flow Criteria Report? Is this a typographical error or is it really February to June 55% unimpaired flow? If so, why does it not include January?	Yes, this should read January. The text has been corrected.
991	7/3/13	3	3-33	Table 3-6	The comparison among operational elements of the nine CM1 alternatives presented in this table appears to show that the operational elements of the nine alternatives are very similar to one another. This can be seen in Tables 5-5, 5-7, and 5-8 where we see that Delta Outflow varies between -2% to 14% relative to existing conditions. We anticipate high potential for positive and negative CM1 impacts on aquatic communities to be a direct result of the operational elements of the CM1 alternatives. Predicted water quality exceedences for all the alternatives are potentially a product of having very similar operational elements in the alternatives. One way to expand the operational elements would be to determine operational scenarios that mitigate water quality exceedences below the level of water quality standards or other relevant benchmarks.	<p>This comment will be considered for the final draft; new alternatives are not being considered at this point.</p> <p>The conservation plan has provisions for Real Time Operations (add section reference) which would consider effects on water quality.</p> <p>ICF/RBI to dig into the differences in exceedances. Variation in magnitude and frequency of effects on WQ.</p>

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992	7/3/13	3	3-37	Whole section	Does the No Action Alternative include D-1641 spring flows at Vernalis or VAMP flows?	Standards for maximum salinity near Vernalis were assumed to be those from D-1641, as described in Appendix 5A, Table B-8, which includes a comprehensive description of assumptions used for modeling existing conditions and the No Action Alternative.
993	7/3/13	3	3-158	Table 3-13, 3-14, and 3-15.	Information about historical flows should be provided with these tables to provide a frame of reference for understanding the North Delta Intake Bypass Flow Criteria, Post-Pulse criteria, and OMR flow criteria. This could be done using cumulative flow distributions that show how often flows identified in the operational rules are in the Rivers at given locations, during certain times of the year. This information should be available for comparisons for all of the Scenarios.	This comment will be considered for the final draft; this chapter is not intended to provide impact analysis and compare operational scenarios to any baseline conditions. Please provide additional background for this request.
994	7/3/13	3	3-103	27-39	Are upgrades to the Fremont Weir part of the proposed project (p. 3-103) OR part of the No Action (p. 3D-19)? It seems like they cannot be both.	Upgrades to Fremont Weir could take a different form under the No Action Alternative. Those proposed upgrades under CM2 would not necessarily reflect the effects of implementing modifications to Fremont Weir under the No Action Alternative. Discussion of the inclusion of actions required in the BiOp RPAs can be found in Section 3.5.1 of this chapter.
995	7/3/13	3	3-100	Whole section	How often/how much would the Yolo Bypass be flooded across the different water year types and life of the permit?	Operational scenarios have not been finalized for CM2. The frequency and volume of inundation would vary, but, as described in Chapter 3 of the BDCP, "project-associated inundation of areas that would not otherwise have been inundated is expected to occur in no more than 30% of all years, since Fremont Weir is expected to overtop the remaining estimated 70% of all years." Based on an operational scenario developed for discussion and illustrative purposes, flows up to 6,000 cfs would be initiated in November under certain conditions, with a targeted inundation footprint ranging from 7,000 to 17,000 acres. See Table 3.4.2-1 in BDCP Chapter 3 for further detail.
996	7/3/13	3	3-182	Table 3-23	Adaptive management should include operational elements that result in a broader range of freshwater flows through the Delta than are currently identified in H1-H4.	As described in Section 3.3.2.2, and adaptive management and monitoring program would apply to any form that the BDCP will take. The decision tree will act as a sort of starting point for adaptive management and it is anticipated that a broader range of flows could be identified during the adaptive management phase. This program is described further in Chapter 3, Section 3.6, of the BDCP. Additionally, short term adjustments in operations could be determined through the real time operations process described in Section 3.4.1.4.5 of Chapter 3 of the BDCP. Such adjustments would consider water quality standards.
997	7/3/13	3	3-181	General	Has an adaptive management strategy with targets been identified for any of the other alternatives?	As described in Section 3.3.2.2, an adaptive management and monitoring program would apply to any form that the BDCP will take. This program is described further in Chapter 3, Section 3.6, of the BDCP.

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1417	7/3/13	5	5-4	24	Information about water demand and population growth should be expanded to describe the relationship between water demand and population growth and the reasons it is assumed that demand will grow. Similarly, a discussion about agricultural water use and estimated future changes in the use of SWP/CVP water is also appropriate to describe. This information would also be very useful as support for the Need Statement in Chapter 2.	Discussion of assumptions for future level of development assumed in CALSIM modeling is summarized in Section 5.3.3.1 and provided in further detail in Appendix 5A.
1418	7/3/13	5	5-85	Also table 5-7	North of Delta M&I would increase up to 85% compared to existing conditions. This seems like a very large increase from past trends, and further explanation and support is needed for such an increase. If this is related to population growth, that should be explained here, too (related to table 30-6). And is this 85% increase included in the No Action as well as Alt 4? (p. 5-45).	Same assumptions apply to all Alternatives simulated at LLT. "buildout of facilities" is indicated.
1419	7/3/13	5	5-11	8-15	It may be more straightforward to use the words "shorten the route of Sacramento River Water to the export facilities" instead of "improve the transfer." Readers not familiar with the system will not understand how the transfer is improved by reading that and the word "transfer" can be confused with "water transfers" which are a very different concept than shortening the route of water from the Sac River to the export facilities.	Text has been changed to read "to provide a more direct flow route for water entering the Delta from the Sacramento River to the export facilities at the Banks and Jones Pumping Plants"
1420	7/3/13	5	5-11	8-15	It would also be equitable to explain here that there are some negative impacts to the ability of adult San Joaquin River salmon to successfully navigate back to the San Joaquin River when Sacramento River Water is relocated into the south Delta including San Joaquin River channels.	This discussion would be located in Chapter 11.
1432	7/3/13	7	7-32	31-41	The topic sentence of this paragraph says that there will be minor changes in water supply availability that are equal to 2% of current groundwater production. Are these changes an increase or a decrease?	Changed this sentence to specify that there could be minor decreases in water supply to CVP water users.
1433	7/3/13	7	7-81; 7-82	36-39; 1-12	Alternative 4 is compared to Alt 1 and Alt 2A. This is confusing to the reader because impacts should be directly stated and compared to the baseline. (ie No Action and Existing Conditions). H3 is said to represent the impacts of Alternative 4, but an explanation for why this is so is not provided here.	More details to describe specific impacts in the Delta due to Alternative 4 in comparison to the baselines were added to the text. Alt 4 is likened to Alts 1A and 2A since there are similarities, but not compared against these two alternatives. The analysis in the impacts discussions below only compare against No Action and Existing Conditions. No modeling was performed for the additional Alt 4 scenarios because it was determined that Scenario H3 water delivery is within the range of delivery in the other scenarios. Text was added to explain that H3 "falls within the range of delivery resulting from the other scenarios and provides a realistic average"
1434	7/3/13	7	7-53	Table 7-7	Why is this table not in the water supply chapter?	This table is specifically used as an indicator to describe potential impacts to groundwater.
1435	7/3/13	7	7-83	34-36	Does it make sense to use H3 to represent all of Alt 4 just because it represents the original Alt 4? The operational criteria of H1 and H4 are very different, and yet, the impacts are not discussed in the following paragraphs.	The impacts for Scenarios H1, H2, and H4 are discussed qualitatively in relation to the results for Scenario H3 model simulations. For the purposes of this impact mechanism, it was deemed appropriate to use the direction of change in deliveries to determine the potential for effects on groundwater levels.
1436	7/3/13	7	7-86	39-40	Why the comparison to 6A??	Comparison to Alt 6A was deleted.

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1437	7/3/13	7	7-46	31-32	What kinds of contaminants can be expected to be discharged with this water? If it's in Ch 8, where is it located there (p.#)?	The text does not anticipate contamination being present in the discharged water. However treatment is recommended as necessary to comply with NPDES requirements. Impact WQ-31 in Chapter 8 (page numbers are variable) summarizes construction-related water quality issues and measures to address potential contaminants.
1438	7/3/13	7	7-47	27-28	Is this information unavailable at this time?	Appendix 4A provides some information regarding data collection at potential project sites. Well data to which the lead agencies have access will be considered for the Final EIR/EIS. While implementing this mitigation measure, it will be necessary to do a comprehensive baseline survey to ensure that all wells in the affected area are identified and appropriate baseline data is collected.
1439	7/3/13	7	7-50	23	Shouldn't this be described here first and the reference included secondly on the next page?	This was corrected.
1440	7/3/13	7	7-48	14-17	What is the current status of seepage now at Byron tract forebay? This is not discussed in existing conditions. What kinds of land would potentially be impacted by seepage around the construction of a new intermediate forebay? Would the size of the forebay be smaller for Alt 4 (less intakes)	Currently the land where the Byron Tract Forebay would be constructed is an upland area that is used for dry farming and would be excavated for the Forebay; there shouldn't be any seepage currently in this area. The new Intermediate Forebay is surrounded by agricultural lands that might be affected by seepage caused by a rise in groundwater level. The new Intermediate Forebay for Alternative 4 would be smaller than for the other alternatives (about 40 acres of water surface area) and the potential for seepage from this forebay to adjacent lands would be very minimal. See revised text in the chapter.
1441	7/3/13	7	7-49	41	These design features should be described in much more detail since they form the basis for the no adverse impact conclusion.	The conclusion was modified.
1442	7/3/13	7	7-110	37-41	What is the difference between those projects included in the cumulative impacts and those included in the No action alternative? (ie Grassland project is mentioned for the No Action (line 28) and for the cumulative impacts (table 7-8)	The Grassland project was moved to the NAA Table 7-6
	7/3/13	8	General		Is there a section that explains how the 72 water quality constituents identified in Table SA-11 "WQ constituents for which detailed assessment were performed" (page 8C-40) were narrowed into the 15 WQ metrics evaluated for CM1?	Appendix 8C fully explains the screening process for constituents assessed.
	7/3/13	8	General		A table that shows how each CM1 alternative meets or exceeds narrative and numeric water quality standards for the water quality constituents that received more detailed analysis should be created. This comparison is important for NEPA disclosure and for permits, authorizations, and certifications that will be needed to build CM1.	The executive summary for the EIR/EIS now includes an extensive table showing the impact conclusions for each alternative and each impact mechanism, which should help readers and decision-makers begin to compare alternatives. An executive summary of the chapter showing more specific comparisons of the various alternatives (by constituent, location, etc.) is planned for the Final EIR/EIS, but was not included in the Draft EIR/EIS due to time constraints.

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	7/3/13	8	8-53	17-26	This discussion should include text that discloses concerns scientists have with existing selenium criteria not being protective enough of aquatic life (see discussion on page 17 in US EPA Bay Delta Action Plan available at <a href="http://www2.epa.gov/sites/production/files/documents/actionplan.pdf">http://www2.epa.gov/sites/production/files/documents/actionplan.pdf</a> ), and plans to update selenium criteria. A useful example of this information is on pages 32 and 33 of US EPA Unabridged Advance Notice of Proposed Rulemaking for Water Quality Challenges in the San Francisco Bay/Sacramento-San Joaquin Delta available at <a href="http://www2.epa.gov/sites/production/files/documents/baydeltaanpr-fr_unabridged.pdf">http://www2.epa.gov/sites/production/files/documents/baydeltaanpr-fr_unabridged.pdf</a>	The discussion related to selenium criteria is in the selenium section (8.1.3.15), where and USEPA's Action Plan for Water Quality Challenges in the San Francisco Bay/Sacramento-San Joaquin Estuary are discussed.
	7/3/13	8	8-394	19-43	Further describe the relationship between hydrodynamics and open water aquatic habitat such as year-round anticipated changes to the salinity gradient, quality and quantity of the low salinity zone, continuity of San Joaquin river water from Vernalis to the Delta and migratory corridors for returning adult salmon, and continuity of dissolved oxygen levels along that corridor. Aquatic habitat discussion may be better organized into Chapter 11 but this section on Delta Hydrodynamics is connected and relevant to the relationship between WQ elements and the quality and quantity of open water habitats. It could be much more robust than the information presented, which is focused on meeting WQ objectives due to hydrodynamics changes. If this discussion is not included here, a reference should be provided to such a discussion in Chapter 11.	All of the issues addressed in this comment relate to fish and aquatic resources habitat issues. Section 8.4.2 refers readers to Chapter 11 for further discussion of these effects.
	7/3/13	8	8-395	1-10	This section should provide all of the changes to outflow associated with each alternative H1-H4 relative to existing conditions and no action alternative (some of this is in Ch 5 but since it is referenced here it should be discussed). It should also provide the percent change for H1-H4 relative to existing conditions and no action alternative.	Ch 8 is for WQ changes, Ch 5 discusses outflow issues, more substantive discussion of Delta outflow in this chapter is unnecessary
	7/3/13	8	8-395	6-10	The conclusion that the preferred alternative results in increased sea water intrusion in all years in addition to conclusions about EC levels in the southern Delta (see page 8-425 and -426) shows a high potential for substantially negative impacts on the quality and quantity of open water aquatic habitats such as the low salinity zone (0.5-6 ppt salinity), and migratory corridors for salmonids.  An analysis of changes to the salinity-gradient and the quality and quantity of open water aquatic habitats is necessary for evaluating impacts to aquatic resources that use specific zones along these gradients as part of their primary habitat for all of part of their life cycle.	All of the issues addressed in this comment relate to fish and aquatic resources habitat issues. Section 8.4.2 refers readers to Chapter 11 for further discussion of these effects.
	7/3/13	8	8-397	Table 8-67	We recommend making comparisons to the 2009 draft EPA ammonia aquatic life criteria.	See Table 8-39. All applicable criteria and thresholds, including the 2009 draft, were considered.
	7/3/13	8	8-407	7-11	The project impacts from bromide to drinking water supplies appears to exceed water quality standards by reducing water quality for the municipal beneficial use below appropriate protection levels.	Potential exceedances of bromide standards are identified primarily for Barker Slough. This effect on M&I uses would be addressed by implementing measures designed to offset water supply effects. See Other Commitments in Appendix 3B.
	7/3/13	8	8-413	22-26	Making beneficial use impairments measurably worse and exceeding chloride objectives presents significant challenges for concluding that the preferred alternative protects aquatic life and/or the Delta ecosystem. These conclusions also present a significant permitting challenge for CM1. Granting a CWA Section 404 permit is prohibited for projects that violate State Water Quality Standards (40 CFR 230.10(a)(b)(1) "no discharge of dredged or fill material shall be permitted if it causes or contributes, after consideration of disposal site dilution and dispersion, to violations of any applicable State water quality standard").	This chapter does not analyze water quality effects as it pertains to aquatic habitat or the Delta ecosystem. For this bromide analysis, the significance determination is based only on a potential effect on municipal beneficial uses not fish and wildlife beneficial uses. Effects of an alternative on fish and aquatic resources are evaluated in Chapter 11. It is unclear what the connection is between chloride effects and Section 404. Please clarify.

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	7/3/13	8	8-432	14-17	<p>The topic sentence concluding that there would be no substantial, long-term increase in mercury or methylmercury concentrations or loads in the Delta is inconsistent with the preceding sentence that states that the potential for methylmercury creation in the Delta is adverse and previous statements in this section that the Delta does not have any assimilative capacity for increased loads of methylmercury transported to the Delta or formed within the Delta. The CEQA conclusion also appears to be inconsistent with the general understanding that restoring 20K acres of seasonal wetlands in Yolo Bypass will methylate mercury in the sediments and could become the largest source of methylmercury to the Delta when the bypass is flooded.</p> <p>Further explanation of the reason for this conclusion would be helpful. Or perhaps the topic sentence in the CEQA conclusion paragraph is an error?</p>	Revisions have been made with respect to the analysis of methylmercury; additionally, the text has been clarified to make the point that restoration activities associated with the BDCP are the primary basis for the impacts, rather than operations of CM1.
	7/3/13	8	8-723		Please explain why the conclusions about cumulative water quality analyses are different than conclusions about water quality impacts from preferred operations: examples include dissolved oxygen, pesticides, mercury, and selenium.	Uncertain about comment - overall, cumulative is consistent with CEQA guidance and determinations are consistent with those for preferred alternative....different significance determinations can be reached for constituents, compared to the direct effects, because only the increment of the project is being assessed
	7/3/13	8	8-425 and 426	41-44 and 1-9	Making beneficial use impairments measurably worse and exceeding EC objectives present significant challenges for concluding that the preferred alternative protects agriculture and aquatic life beneficial uses and the Delta ecosystem. These impacts are also significant CWA permitting challenges, see previous comment on chloride and bromide.	This chapter does not analyze water quality effects as it pertains to aquatic habitat or the Delta ecosystem. For this EC analysis, the significance determination is based only on a potential effect on municipal beneficial uses not fish and wildlife beneficial uses. Effects of an alternative on fish and aquatic resources are evaluated in Chapter 11.
	7/3/13	8	8-426	12-15	We recommend modifying the text to explain why mitigation measures are not available to the applicant. It seems that increasing flows is a mitigation measure that is available to the project applicant. Although doing so may mean that operations change enough to be considered a separate alternative, but the action of increasing flows is possible. This sentence suggests that the action is not something that could be done. It can be done, which makes the negative impact something that can be mitigated. It would be useful to remind the reader of the selection criterion in Chapter 3A which restricts operational elements of the CM1 alternatives to those that do not require changes to water rights other than CVP/SWP contractors. This seems to be the primary reason increased flows are not chosen as a potential source for mitigation.	It is unclear what the connection is between chloride effects and Section 404. Please clarify.
	7/3/13	8	8-89; 8-90	Tables 8-28, 8-29, para 4	The comparison of the tables underscores how little information we have about water quality in the Delta. This is acknowledged in the narrative. It must be remembered that assumptions are being made with no more than a snapshot of one day's measurements in some cases. These point strongly to the need to act conservatively until current conditions are better understood through more robust monitoring, and the impacts of the project alternative can be predicted with reasonable confidence.	Selenium analysis is conservative & uses best available information. No change in approach is warranted.
	7/3/13	8	8-90	Para 4	The San Joaquin River currently contributes total ~10-15% of the flow to the Delta. The question is how much will that percentage change as a result of the project? Lower Sacramento River flow will increase the impact of higher selenium concentrations from the San Joaquin.	Selenium is assessed with fingerprinting, so flow changes at SJR are accounted for in the assessment

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	7/3/13	8	8-93	Para 2	The food web preference of bass for insects explains why there was “....no difference in bass selenium concentrations in the Sacramento river at Rio Vista and in the San Joaquin River at Vernalis...” The statement that “...the reasons for this difference are unknown” suggests a lack of understanding of the basic assumptions of the selenium ecological model, i.e., that different food webs biomagnify selenium to greater or lesser extents.	"the reasons for this difference are unknown" refers to higher selenium in the river systems in 2007 than normal. However, earlier in the paragraph, similarities between the Sacramento and San Joaquin River are discussed, and it is clearly stated that this was unexpected because the SJR has higher Se concentrations.
	7/3/13	8	8-459	Para 6	The comment is made that nonpoint selenium sources in the San Joaquin Valley will be controlled through a TMDL. While it is true that the flows from the Grassland Bypass Project have reduced selenium inputs to the San Joaquin and, thus, the Delta, they have not yet achieved the TMDL limits. The project has had two extensions thus far, and has a “due date” of 2019. Besides the Grassland Area, the Westlands Area, which has not been able to discharge to the San Joaquin for many years, will receive drainage service by the US Bureau of Reclamation. The outcome is not certain for either of these areas to be able to meet TMDL limits that were set many years ago. Again, great progress has been made in the Grassland Area, but to imply that that the San Joaquin source will not continue to be an issue is rather speculative. The uncertainty around the issue should be acknowledged in the analysis.	TMDL uncertainty discussion could be added; but would not change the impact significance determinations - i.e., signif. already with the assumptions/uptake modeling.
	7/3/13	8	8-460-462	Impact WQ 26, Mitigation Measure WQ 26	It is well established that wetlands and other water bodies where flows are impeded by physical and biological barriers increase residence time and thus the likelihood of increasing the biotransformation of selenium sources. Proposing that the wetlands might be the problem implies that non-natural means (reducing access by wildlife, reducing organic matter build up) would be better suited as mitigation measures. This places the emphasis on the effect, rather than the cause. The Delta needs good quality water to support a healthy, non-selenium impacted ecosystem. Discussion of potential source-related solutions, such as delivering more low selenium water from Friant Dam to the San Joaquin River would be more realistic from an environmental perspective than developing wetlands where wildlife would not be welcome.	This analysis was substantially revised with input by USFWS and the other federal lead agencies (see Impact WQ-26). Existing source control projects, selenium TMDL and the flows through the restoration sites which ensure limited water residence times are expected to result in less than significant impacts on fish and wildlife residing in restoration areas. Additionally, this analysis is presented programmatically and additional water quality analysis will be conducted as restoration sites are proposed.
1982	7/3/13	11	11-1	2	The title of this chapter, Fish and Aquatic Resources, suggests it will include an assessment of impact to aquatic habitat; however, aquatic habitat is evaluated in “Chapter 12 Terrestrial Biology.” The quality and quantity of aquatic habitat seems an important element of protecting T & E fish species. Why is the quality and quantity of aquatic habitat evaluated in the Terrestrial Biological Resources Chapter? This is confusing.	This chapter is limited to aquatic biological resources, including species. Insofar as terrestrial species occupy both terrestrial and aquatic habitats, those have been addressed in Chapter 12. The chapter addresses aquatic habitats in terms of their support for aquatic species only and discussion of habitat conditions appears throughout the analysis.



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1983	7/3/13	11	11-1 and 11-2	28-34 and 1-24	<p>This section describes aquatic habitat in the Delta and Suisun with a minor discussion about the salinity gradient and how it defines quality and quantity of aquatic habitat for target fishes. This section and this chapter should include an analysis of impacts to important open water aquatic habitats defined by the salinity gradient, e.g, marine and low salinity zones, and migratory corridors. These habitats should be included in the “Areas of Potential Environmental Effects” and included in the analysis of impacts to aquatic resources. The Low Salinity Zone is minimally described in this section but the quality and quantity of this habitat is not evaluated as primary and migratory habitat for target species.</p> <p>The salinity gradient, as approximated by X2, has an inverse relationship with many bay and estuarine species. For many species, fish populations go down as X2 goes up (salinity intrusion into freshwater increases).</p> <p>Estimating changes to the salinity gradient for each operational scenario is important for understanding how the quantity and quality of estuarine habitats and fish populations change under CM1 operational scenarios A through G.</p> <p>This can be done using one-dimensional equations that calculate X2. Has X2 been calculated, seasonally or year round, for each of the operational scenarios A through G?</p> <p>A more holistic approach is using three-dimensional modeling (more equations) that maps the salinity gradient within the estuary. This makes it possible to estimate the size and location of salinity zones, such as the low salinity zone, under different operational scenarios.</p>	
1984	7/3/13	11	General		<p>Estimates of relative fish population changes (increases or decreases relative to baseline) or estimates of absolute changes to fish populations are not estimated or disclosed in this section. Were these estimates generated? These evaluations are necessary for informed decision making regarding actions that contribute to recovery of endangered species and/or meet the biological goals and objectives in the HCP.</p>	Cannot tell which section commenter is referring to

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1985	7/3/13	11	General		<p>Freshwater flow may be the best tool available to improve fish population response and protect aquatic life beneficial uses prior to the completion of planned restoration projects. Relative fish population responses to freshwater flow can be estimated using regression equations provided in the peer reviewed literature cited below. We recognize that these equations do not directly include the effects of tidal marsh and floodplain restoration on fish populations; however, we recommend that these tools be acknowledged in the EIS, with a explanation of why they were not used to estimate fish population responses to the proposed actions.</p> <p>Kimmerer, W. J. 2002. Effects of freshwater flow on abundance of estuarine organisms: Physical effects or trophic linkages? Marine Ecology Progress Series 243:39-55</p> <p>United States Fish and Wildlife Service, September 27, 2005, Recommended Streamflow Schedules To Meet the AFRP Doubling Goal in the San Joaquin River Basin (FWS 2005), pp. 27 available at: <a href="http://www.waterboards.ca.gov/waterrights/water_issues/programs/bay_delta/bay_delta_plan/water_quality_control_planning/docs/sjrf_spprtinfo/afrp_2005.pdf">http://www.waterboards.ca.gov/waterrights/water_issues/programs/bay_delta/bay_delta_plan/water_quality_control_planning/docs/sjrf_spprtinfo/afrp_2005.pdf</a></p> <p>Scientists will have improved ability to measure effects on fish populations as a function of tidal marsh and floodplain restoration projects after restoration projects are started and measurements and monitoring data become available.</p>	Added acknoeldgement and explanation to Methods
1986	7/3/13	11	General		<p>Comparing impacts on fish populations from project alternatives to existing conditions does not reflect the fact that existing conditions are very poor for fish populations and there is general agreement among scientists that native and migratory fish populations need to increase in order achieve self-sustaining population levels.</p> <p>Comparisons of fish population responses to project alternatives should be made to biological goals and objectives so that project alternatives can be distinguished from one another.</p>	The EIR/EIS is required to evaluate impacts of alternatives against a baseline condition (No Action or Existing Conditions). This additional analysis being requested is not within the purview of the EIR/S. The BDCP biological goals and objectives, conservation strategy, and avoidance and minimization measures are intended to provide for recovery of covered species.
1987	7/3/13	11	General		<p>Aquatic life benefits from the northern intake bypass flows are not clear and/or appear to be minimal. It appears that there is minimal improvement in fish entrainment and loss from operating a new Delta Conveyance because the times and conditions during which the entrainment effects of the present facilities are of greatest concern will continue to occur after the Delta Conveyance facilities are operating, since use of the northern intakes will be limited to times of higher Sacramento River flows per the North Delta Bypass criteria. At these times, entrainment at south Delta facilities has historically been low. South Delta intake facilities will continue to operate at times when Sacramento River flows are not high enough to operate the Sacramento intakes, which includes the conditions when entrainment effects of the south Delta facilities are greatest for T &amp; E species.</p>	While it's true that South Delta intakes will still be used and entrainment will still occur, the addition of North Delta intakes under those alternatives that include them do show large reductions in entrainment of covered species. While it varies between alternatives, the North Delta intakes generally show substantial decreases in entrainment.

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1988	7/3/13	11	General		Estimated environmental benefits from dual diversion points (north and south Delta) may be reduced by issues that are not addressed in CM1. The current trash racks, fish screens and diversion facilities in the south Delta are not proposed to be changed. Invasive aquatic weeds and deferred maintenance have greatly impaired the effectiveness of the fish screens for much of the last 20 years. Redirecting diversions to these facilities will expose fish to the threats of salvage operations and ineffective screens. In addition, the impact of an invasion of Dreissenid mussels into the Delta, specifically to the southern Delta, is not addressed in CM1. The invasion of these mussels is very probable and the southern Delta provides suitable habitat for Dreissenid mussels. Impacts from these mussels on freshwater diversions in the Great Lakes and Lake Mead would be informative.	Comment noted. The benefits of the dual diversion are primarily related to the new north Delta intakes rather than use of existing South Delta intakes; therefore, the continued use of the South Delta intakes isn't necessarily being described as beneficial.
2181	7/3/13	12	1	2	Title of the chapter is confusing when compared to the content of the chapter. For example, the majority of natural communities evaluated are aquatic habitat, e.g., "tidal perennial aquatic." The majority of the species evaluated are terrestrial. Potentially renaming it or reorganizing some of the information in this chapter to other chapters would be more appropriate. Chapter 11 is the Fish and Aquatic Resources but it does not evaluate changes to aquatic habitat that are evaluated in the Terrestrial Biological Resources Chapter.	This chapter is limited to terrestrial biological resources, including species. Some species occupy both terrestrial and aquatic habitats. The chapter addresses aquatic habitats in terms of their support for terrestrial species only. This has been clarified in the text.
2182	7/3/13	12	Part 3 12-21	10	A comprehensive frame of reference for impacts should be provided. Each of the impact assessments states the percent impact of BDCP CMs compared to the amount of each natural community remaining. The example here is, "These modifications represent less than 1% of the 82,266 acres of the community that is mapped in the study area." This gives the impression that BDCP impacts are not very much to this natural community. However, it is not apparent to readers without knowledge of historical aquatic habitat losses, that the majority of Bay Delta natural aquatic communities have been eliminated. The recent Historical Delta Ecology Report provides estimates of pre-development natural communities in the Delta. These estimates should be provided to give the reader a more ecologically appropriate frame of reference in which to understand the estimated impacts from the proposed project. This would make it apparent that project impacts, whether they are a small or large percentage of existing natural community distribution, are in addition to large-scale impacts of actions that occurred in the past.	Historic trends in habitat loss are addressed at the beginning of the chapter, in Section 12.1.1. This provides the reader context regarding the overall decline in terrestrial habitats. Declines in Delta aquatic habitats are also described in Chapter 11. The references to percentages of remaining habitat give the reader a perspective to existing conditions in the study area, and are not the basis for impact conclusions. Impact conclusions are based on the overall ebb and flow of habitat availability during the life of the BDCP.
2183	7/3/13	12	Part 3 12-22	1-15	Actions that result in impacts to the aquatic natural communities described in this section and the other aquatic communities are not detailed. The Mapbook does not provide much more detail than the narrative description. Details regarding project impacts should include things such as: estimated impacts to waters of the US (acres and/or linear feet) from project activities that are specifically described (e.g., grading, dredging, trench and fill, boring, spoils piles, levee work, excavation, etc.), volume (yd3) of sediment proposed for disposal sites, volume (yd3) of sediment removal from waters for project impacts and expected maintenance dredging.	The details of effects on waters of the US are included at the end of the impact discussions for each alternative, under the Other Biological Resources header (see Impact BIO-176). The EIR/EIS presents aggregated effects of CM1 facility components based on a project-level GIS analysis.
2184	7/3/13	12	Part 3 12-21		Table 12-4-1 and other aquatic natural community tables, especially 12-4-5 & 12-4-6. Impacts to aquatic communities seem fairly low. Evaluating the mapbooks verifies very few aquatic communities mapped on Bouldin and Bacon Islands. There are Corps of Engineers CWA 404 project-level delineations for these islands for the Delta Wetlands Project that show a much greater amount of aquatic habitat.	The detailed assessment of waters and wetlands is included at the end of each alternative discussion, under the General Biological Resources header.
2185	7/3/13	12	Part 3 12-23	27 & 28	We recommend adding text that explicitly states that other federal regulations under Section 404 of the CWA restrict permits to the alternative that maximizes avoidance and then provides compensatory mitigation.	The reference to portions of Section 404 that deal with selection of the LEDPA are relevant to the completion of the ROD under NEPA and the permitting process. This information is not a part of the rationale for determining the significance of an adverse effect and mitigation required to offset the effect.

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2186	7/3/13	12	P3 12-23	28	Here and other places in the document, aquatic natural community restoration is discussed with respect to eliminating any adverse affects under NEPA, assuming that the restoration is 100% successful. Is there an operating assumption that conservation CMs will be 100% successful? Is there an assumption of a success rate for any of the restoration projects? If so, those assumptions should be disclosed with supporting documentation. If not, a discussion of the success rate among restoration projects for each of the natural community types would be appropriate to provide the reader with context for understanding the potential success of restoration.	The assumption being made to determine whether the Plan will offset the effects of construction and operation is that the Plan goals will be fully met through the life of the Plan. There will undoubtedly be specific restoration projects where restoration success will be less than 100%. However, those acres that fail will not be count toward the Plan goal. The Plan will not achieve its goals until the successful restoration acreages are equivalent to the Plan goals.
2187	7/3/13	12	P3	All	Why are CEQA conclusion paragraphs identified and NEPA conclusion paragraphs are not titled?	NEPA conclusions have been added to all impacts (in some cases the NEPA determination was "uncertain").
2188	7/3/13	12	P3 12-25	5-9	Is there information that tells us how much more often flows will be in the bypass and these floodplains will be activated? If so, could it be provided here to help the reader understand how often the bypass will be flooded and these benefits will be available for fish?	Text has been added to state that increased flows would occur every three years.
2189	7/3/13	12	P3 12-32	21-23	Table 12-4-3 – Do estimates of impacts here and in the other aquatic habitat natural community tables include impacts from spoils and tunnel muck or other material that is dug up for the tunnel alignment and discharged in adjacent areas that may have wetlands or waters of the US?	The direct effects of reusable tunnel material disposal are included in the CM1 direct effects impacts. Impacts on wetlands and waters of the US are discussed at the end of each alternative discussion.
2190	7/3/13	12	P3 12-38	22-36	Are there quantitative estimates or details that support the conclusion that ongoing operation of new Delta conveyance would have no adverse effect on tidal freshwater emergent wetland natural community? The topic sentence of the paragraph indicates that operations and maintenance could alter acreage of this community by changes in flow patterns. Can this be explained in further detail, including how these changes in flow will not have an adverse affect on the habitat of species that depend on it?	Text is being added to further explain the effects, or lack thereof, from ongoing operation of water facilities.
2780	7/3/13	3A	3A	General	This screening analysis is relevant to a programmatic document and should be in a DEIS chapter directly instead of being placed in an appendix.	The screening process has been summarized in Chapter 3 and the appendix has been updated. Additionally, a number of documents (including the "Highlights" documents) have been prepared to provide readers with background information relating to the development of alternatives for the EIR/EIS.
2781	7/3/13	3A		General	This is the first time EPA has reviewed this screening document. These screening criteria were not evaluated or agreed upon by EPA previously. We were not requested to provide any comments or suggestions prior to this review. These comments represent a first initial review of this document and are not likely to include all comments that emerge from a comprehensive reading of the entire document. In particular, we emphasize that our review and comments should not be read as agreeing that these screening criteria are being used appropriately to identify the alternative most likely to contain the Least Environmentally Damaging Practicable Alternative (LEDPA) at a programmatic level, consistent with the 404(b)(1) Guidelines at 40 CFR Section 230. We would like to meet with the lead and cooperating federal agencies to discuss how these criteria were developed and applied to determine whether or not they are consistent with NEPA and other regulatory requirements for evaluating project alternatives, the 404(b)(1) Guidelines in particular.	The Lead Agencies are committed to working with all permitting agencies as the environmental compliance, construction, and operations phases of the BDCP move forward, including EPA. The Lead Agencies look forward to meeting with EPA to discuss Section 404 requirements.

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2782	7/3/13	3A	3A-14	12-33	<p>The Purpose and Need statement in Appendix 3A is different from the statement in ADEIS/EIR Chapter 2 Purpose Statement (Chapter 2, page 2-4 and 2-5).</p> <p>Which version of the purpose statement was used for screening?</p>	The text now reflects the Purpose Statement in Chapter 2.
2783	7/3/13	3A	3A-14	13-38	<p>The text should be clear about whether or not the screening process eliminated alternatives because they did not meet the these elements of the purpose statement in Appendix 3A:</p> <p>“reducing the adverse effects to certain listed species of diverting water by relocating the In takes of the SWP and CVP.” This element limits alternatives to only those that build new SWP and CVP pumps in the north Delta. This would eliminate Alternative 9, but that one was carried forward.</p> <p>“up to full contract amounts”</p>	The text now reflects the Purpose Statement in Chapter 2 and no longer excludes Alternative 9. Additionally, a footnote was added to explain what "full contract amounts" meant.
2784	7/3/13	3A	3A-17	16-36	<p>Are these bullets the Third Level Screening Criteria? The topic sentence says the bullets below are “considerations reflected in the Third Level Screening Criteria.” The Third Level Screening Criteria should be contained in one table with the metrics used to determine whether or not criteria are met.</p>	These bullets are the third level screening criteria. This is reflected in Table 3A-3.
2785	7/3/13	3A	3A-23	8-35	<p>We would like to discuss this screening criterion with the lead federal agencies and discuss their perspective on how it is consistent with NEPA:</p> <p>“Would the potential alternative result in the impairment of existing senior water rights in the Sacramento-San Joaquin Rivers watershed who are not applicants for incidental take authorization through the proposed Bay Delta Conservation Plan?”</p>	Any consideration of changes in water use upstream of the Delta would require covered activities outside of the Plan Area proposed in the BDCP. These potential covered activities would therefore be outside of the scope of the HCP. Additionally, this would have the potential to require changes in the legal Sacramento River water rights or water entitlements of third parties other than BDCP permit applicants that are beyond the scope of the regulatory authority of the agencies charged with considering approval of the proposed BDCP (including DFW, which approves the NCCP, and USFWS and NMFS, which approve the HCP).
2786	7/3/13	3A	3A-23	8-35	<p>We are concerned that the above criterion may result in the elimination of alternatives that are less damaging to the aquatic environment, which presents a substantial CWA Section 404 permitting problem because CWA Section 404 permits are restricted to the LEDPA.</p>	Any consideration of changes in water use upstream of the Delta would require covered activities outside of the Plan Area proposed in the BDCP. These potential covered activities would therefore be outside of the scope of the HCP. Additionally, this would have the potential to require changes in the legal Sacramento River water rights or water entitlements of third parties other than BDCP permit applicants that are beyond the scope of the regulatory authority of the agencies charged with considering approval of the proposed BDCP (including DFW, which approves the NCCP, and USFWS and NMFS, which approve the HCP).

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2787	7/3/13	3A	3A-71	13-38	Unlike the preferred alternative for CM1, which would only minimally change flows through the estuary, this alternative would substantially increase flows through the estuary and provide greater protection for resident fishes. It is important to demonstrate that eliminating this alternative did not eliminate a potentially less environmentally damaging practicable alternative. If such documentation does not already exist, a more complete analysis of this alternative may be required for a CWA permit.	Appendix 3A describes the potential for this alternative to have adverse effects on reservoir levels, river flows in the Sacramento and Feather Rivers, fish and aquatic resources, and on pre-1914 water rights holders. This would have the potential to require changes in the legal Sacramento River water rights or water entitlements of third parties other than BDCP permit applicants that are beyond the scope of the regulatory authority of the agencies charged with considering approval of the proposed BDCP (including DFW, which approves the NCCP, and USFWS and NMFS, which approve the HCP).
2788	7/3/13	3A	3A-84	Table 3A-1	Is there a quantitative definition of “most” that was used in the screening process? Is this greater than 50% of the criteria? Are all criteria considered equal?	In this usage, most is defined as the greatest part or number. No strict quantitative definition has been applied for the purpose of this screening analysis.
	7/3/13	8M	8M-19	Table 5M	The Kd values used (see Table 5M at page 8M-19) are too low; this tends to underestimate bioaccumulation. The values range from 1000 to 1760 for models 1 -8, and then 2840 for Model 9. EPA uses using Kd values of between 3000 and 5900 for EPA delta modeling (the actual range is much larger – approx. 1,300 – 13,000).	The Kd values used in the models were derived from Lucas and Stewart (2007), as explained in Secion M.3.1, and then adjusted to calibrate the model for dry years (Model 9). Using the Kd value of 1,760 gave a reasonable fit for wet years (Model 8) when comparing the modeled values for largemouth bass to the data for 2000 (Figure M-2) without adjustment of the Kd. Additional analysis of selenium bioaccumulation in sturgeon at the two western-most locations in the Delta (Sacramento River at Mallard Island and San Joaquin River at Antioch) using Kd values of 3,317 and 5,986 from Table 1 of Presser and Luoma (March 2013; Ecosystem-scale Selenium Model for the San Francisco Bay-Delta Regional Ecosystem Restoration Implementation Plan) will be included in an addendum to this appendix.
	7/3/13	8M	8M-19		The species used are largemouth bass which are not good bioaccumulators and are not particularly sensitive to selenium in their diet. A more sensitive species that bioaccumulates selenium, e.g., salmon or trout (both very toxicologically sensitive to selenium) would be a more appropriate indicator.	Revisions being made to the selenium assessment will include more sensitive food webs/species (i.e., sturgeon)